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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/110,018	07/02/1998	MAKOTO SATOH	35.C12830	4203

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EXAMINER
WHIPKEY, JASON T

ART UNIT	PAPER NUMBER
2612	

DATE MAILED: 01/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/110,018	Applicant(s) SATOH ET AL.	
	Examiner Jason T. Whipkey	Art Unit 2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 November 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6,12-17 and 23-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,12-17 and 23-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 July 1998* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *10* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Drawings

1. The objections to the drawings have been withdrawn.

Specification

2. The changes to the title and the specification have been approved and the corresponding objections withdrawn.

Claim Rejections - 35 USC § 112

3. The rejection of claims 1-6 under 35 U.S.C. 112, first paragraph, and claims 2, 6, 15, and 26 under 35 U.S.C. 112, second paragraph, have been withdrawn.

Response to Arguments

4. Applicant's arguments filed November 4, 2002, have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show a certain feature of the applicant's invention, it is noted that the feature upon which applicant relies (i.e., that "multiple frames are picked up in response to one depression of a

release button 9 to generate image data M1-M7 of different resolutions") is not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

As stated in claim 1, the applicant's invention includes "an image pickup device adapted to pick up an image of an object to output an image signal" (lines 2-3) and a storage control device for storing in a memory two (or three) resolutions "of the image signals of a plurality of frames which are obtained by picking up the image of the object" (lines 8-9). Neither a shutter button nor any specific user action in capturing an image is claimed.

Anderson teaches in column 5, lines 41-61 (emphasis added):

> Working memory 530 also includes *several input buffers 538 for temporarily storing sets of raw image data received from imaging device 114*, and a frame buffer 536 for storing data for display on the LCD screen 402. In a preferred embodiment, each input buffer 538 and the frame buffer 536 are split into two separate buffers, called ping-pong buffers (shown by the dashed lines), to improve the display speed of the digital camera and to prevent the tearing of the image in the display 402.
>
> Referring now to FIG. 4B, the contents of one of the input buffers 538 and the contents of the frame buffer 536 are illustrated. As shown, each input buffer 538 includes an input buffer A and an input buffer B, and the frame buffer 536 includes a frame buffer A and a frame buffer B. The input buffers A and B alternate between an input cycle and a processing cycle. During the input cycle, the input buffers 538 are filled with raw image data from the image device 114, and during the processing cycle, CPU 344 processes the raw data and transmits the processed data to the frame buffers 536.

Anderson also teaches in column 6, lines 17-21 that "the size of the input buffers 538 may also vary, but in a preferred embodiment, two of the input buffers 538 are

required to contain a full resolution image. One input buffer 538 can therefore contain one image captured at 1/2 resolution."

Since "several input buffers 538" are used to store "sets of raw image data received from imaging device 114," and Anderson illustrates in Figure 4A that more than two input buffers 538 may exist in DRAM 346, wherein "two of the input buffers 538 are required to contain a full resolution image," Anderson anticipates that more than one image may be held in the plurality of input buffers 538. This raw image data is "received from imaging device 114."

After shutter button 418 is pressed, raw image data of a first resolution is stored in input buffers 538 of DRAM 346 (column 8, lines 59-60). The raw image data is used to create a thumbnail 606 of a second resolution (lower that the first resolution), which is stored in working memory 530 of DRAM 346 (column 9, lines 23-26). Since CPU 344 controls all processing (column 4, lines 38-42) and storage control is needed to use DRAM 346, it is inherent that CPU 344 acts as a storage control device. RAM disk 532 — part of DRAM 346 — holds the final, processed image file 600 (column 10, lines 28-29), which includes a compressed form of the raw image data (column 10, lines 10-24).

The examiner also disagrees with the applicant's assertion that Anderson is silent with regard to outputting compressed and encoded image data from a selected frame.

The raw data (i.e., the first resolution data) of each image captured is compressed and encoded into the JPEG format (column 7, lines 42-44) before being stored in image file 600. When the user selects an image, the appropriate image file

600 is retrieved and decompressed (column 13, lines 25-29). Since image file 600 may reside on either RAM disk 532 or removable memory 354 (column 10, lines 29-34), either may act as an output device for outputting JPEG data for a selected frame.

Claims 12 and 23 may be treated similarly.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 4, 6, 12, 15, 17, 23, 26, and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Anderson.

Regarding claims 1, 12, and 23, Anderson discloses an image capture unit with an image sensor 224. All processing is executed by CPU 344 (column 5, lines 62-65). A dynamic random-access-memory is used throughout processing. DRAM 346 includes RAM disk 532, system area 534, and working memory 530 (column 5, lines 25-27). Working memory 530 includes input buffers 538 and a frame buffer 536 (column 5, lines 41-45).

After shutter button 418 is pressed, raw image data of a first resolution is stored in input buffers 538 of DRAM 346 (column 8, lines 59-60). The raw image data is used to create a thumbnail 606 of a second resolution (lower that the first resolution), which is stored in working memory 530 of DRAM 346 (column 9, lines 23-26). Since CPU 344 controls all processing and storage control is needed to use DRAM 346, it is inherent that CPU 344 acts as a storage control device. RAM disk 532 holds the final, processed image file 600 (column 10, lines 28-29). Additionally, RAM disk 532 has a file system (column 5, lines 32-35). Therefore, RAM disk is capable of handling multiple storage files 600.

LCD controller 390 controls LCD display 402. Thumbnail 606 is displayed (column 11, lines 43-46 and 57-61 and Figure 8). These thumbnails may be retrieved from working memory (column 12, lines 44-47).

Since CPU 344 controls all processing, it is inherent that it performs all compression and encoding taught by Anderson. The raw data (i.e., the first resolution data) of each image captured is compressed into JPEG format (column 7, lines 42-44). Different images of the same resolution are compressed to form compressed images of roughly the same size (column 7, lines 45-50), indicating the same compression ratio is used. The compressed image data 604 is combined with thumbnail 606 and screennail 608 to form the enhanced image data file shown in Figure 6, which is transferred to RAM disk 532 of DRAM 346 (column 10, lines 20-24).

When the user selects an image, the appropriate image file 600 is retrieved and decompressed from the JPEG format (column 13, lines 25-29). Since image file 600

may reside on either RAM disk 532 or removable memory 354 (column 10, lines 29-34), either may act as an output device for outputting JPEG data for a selected frame.

Regarding claims 4, 15, and 26, when the user browses thumbnail images stored and selects a particular image, the compressed image data 604 is retrieved from image file 600 and displayed (column 13, lines 25-29). This image data is first retrieved from removable memory 354 (column 13, lines 9-13) and placed in DRAM 346, which now uses the input buffers as speculation buffers 850 (column 14, lines 26-30). Speculation buffers 850 decompress compressed images 604 (column 14, lines 38-41).

Regarding claims 6, 17, and 28, a screennail image 608 is generated (column 9, lines 9-12) and saved as part of image data file 600 (column 10, lines 20-24). Screennail image 608 is displayed while compressed image 604 is being decompressed for display (column 13, lines 25-29).

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 2, 3, 13, 14, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson in view of Moronaga.

Regarding all of these claims, Anderson discloses an image capture unit as described in the above rejection of claim 1. However, Anderson is silent with regard to transmitting and storing a selected image in non-volatile memory.

Moronaga shows a still video camera 200 in Figure 7. In copy mode, the camera is capable of reading data from internal memory 213 into external memory 231 in memory cartridge 230 (column 57-62). The data to be transmitted to external memory 231 is selected by the user (column 22, lines 46-50). As described in column 7, lines 7-10, the advantage to this configuration is that a memory cartridge is not necessary to take photographs. For this reason, it would have been obvious to have Anderson's image capture unit store a selected image in removable memory 354. An advantage to transmitting images is that it allows the user to permanently store images outside the camera while not wasting external storage space with unwanted images. For this reason, it would have been obvious to have Anderson's image capture unit transmit a selected image.

10. Claims 5, 16, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson in view of Yamagata.

Anderson discloses an image capture unit as described in the above rejection of claim 1. However, Anderson is silent with regard to compressing and encoding selected image data at a compression ratio different from the predetermined compression ratio and storing this data in a memory.

Yamagata discloses an image data re-compression device. The user uses release button 16 to select an image to be recompressed (column 5, lines 27-33). Image data already stored on IC memory card M in Figure 2 in a low compression mode may be expanded and recompressed at a higher rate (column 5, line 63 through column 6, line 1). The recompressed image data are stored in memory M. As stated in column 1, lines 39-42, this increases the recording efficiency of the memory. For this reason, it would have been obvious to have Anderson's image capture unit recompress stored images at a rate higher than the rate at which the image was originally stored.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason T. Whipkey, whose telephone number is (703) 305-1819. The examiner can normally be reached Monday through Friday from 8 A.M. to 5:30 P.M. eastern standard time, alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy R. Garber, can be reached on (703) 305-4929. The fax phone number for the organization where this application or proceeding is assigned are (703) 872-9314 for both regular communication and After Final communication.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office, whose telephone number is (703) 306-0377.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to (703) 872-9314 for either formal or informal communications intended for entry. (For informal or draft communications, please label **"PROPOSED"** or **"DRAFT"**.)

Hand-delivered responses should be brought to the sixth floor receptionist of Crystal Park II, 2121 Crystal Drive in Arlington, Virginia.

JTW

JTW
December 30, 2002

WENDY R. GARBER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600